XV. *A Catalogue of the Rhopalocerous Lepidoptera collected in the Shan States, with notes on the country and climate.* By Neville Manders, M.R.C.S., F.E.S., Surgeon, Army Medical Staff.

[Read June 4th, 1890.]

Having spent two years on active service and intermittent collecting in the unknown districts of the Cis Salween Shan States, I have thought that a short account of the country, together with a catalogue of the Lepidoptera (Rhopalocera) collected during this time, would prove not without interest to Fellows of the Society.

I think the catalogue will not be without interest, for, though few new species are therein described, yet I hold that one of the most interesting entomological questions of the day is the distribution of insects; and, as the vast tract of country lying between Assam and Sikkim, on the one hand, and Upper Tenasserim, Lower Burma, and the Malay Peninsula on the other, is practically unknown to the naturalist, any contribution towards our knowledge of the insects inhabiting that region will be of use.

It may reasonably be inferred that insects occurring both in Assam and the Malay Peninsula would occur also in the intervening region, yet the proof that they do so has so far been wanting.

If I were asked to define Upper Burma, I would say that it is the plain (mostly alluvial) on either bank of the Irrawaddy, bounded on the west and north-west by the Aracan, Yomas, Lushai, and Chittagong hill tracts, on the north-east by Yunan and the Northern Shan States, on the east by the Shan States, and south-east by Karenni. It will be seen that I limit Upper Burma to a comparatively small tract of country; yet I think the definition a natural one. It is, in fact, an alluvial plain surrounded by mountainous country, the former being as hot and almost as dry as the Punjab. The

Shan States are essentially a hilly, or rather a mountainous, country; the usual trend of the hills being north and south, being the continuation southwards of the mountains of Junan. Four ranges of hills at least separate the plains of Burma from the Salwin River, having an average altitude from 4000 to 6000 ft. Many individual peaks rise to a much higher altitude, the highest I individually ascended being just under 10,000 ft., and some of the passes the troops crossed were over 6000 ft. in height. They are mostly composed of limestone and conglomerate, supporting a heavy forest, which, in the more inhabited parts of the country, is extensively burned by the Shans every cold weather, in order to secure a good crop of grass for the bullocks, which are universally used for carriage. At this time of the year long lines of fire extending from base to summit of the hills may be seen advancing, now slowly, now rapidly, with the wind; affording a magnificent spectacle at night, but limiting one's collecting rambles to the neighbourhood of the streams and moister jungles, which the fire is unable to reach. The toungya, or hill-cultivation, carried on by the hill-tribes is infinitely less injurious to the naturalist, as the trees on the space intended for cultivation are simply cut down and burned, the damage extending to a few acres instead of over several miles, as in the former case.

The intervening valleys lie at altitudes all considerably higher than the Burma plains. the lowest—that of Monè—being 800 ft., and that of Nyoungwè, in which is situated the Eulay Lake, 3000 ft. Lying north of the Monè Valley is that of Legya, which is perfectly flat and encircled by hills; and it does not require an examination of the fresh-water shells, which lie within a few inches of the surface of the ground, to be convinced that this once was the bottom of a sheet of water. The Monè Valley has the representative of the former lake, which probably filled the whole valley, in two very much smaller ones connected by a marsh, which extends some considerable distance round them.

On the other hand, though the northern end of the Nyoungwè Valley is now dry land, the southern end is an extensive lake, sixteen miles long by seven broad, which once extended up the whole valley. That this was so is proved both by geological evidence and also by tradition.

The reason for the gradual disappearance of the lakes is not far to seek, and is primarily due to the porosity of the limestone. Streams disappearing into extensive crevices and sometimes caverns of limestone are by no means infrequent in the Shan States. The best instance of this is that of the Nyoungwè (Eulay) Lake itself. This very considerable sheet of water is collected at its southern end into the Balu Choung, which flows at an elevation of about 3000 ft. in a south-easterly direction into Eastern Karenni. Here, after a course of some forty miles, mostly through an open plain, it enters a limestone gorge, and immediately at its exit opens out into a marsh, and disappears into the ground through holes and fissures in the limestone. Its further course is at present unknown, but it probably joins the Pan River some ten miles off, but flowing at a level of only 800 ft., and in this case the whole drainage of the lake must descend over 2000 ft. by an underground course.

The valleys of the Shan States are almost entirely devoted to rice culture, and in prosperous times continuous miles of country were under cultivation. But during the time I was there (1887–88) an entirely different state of things prevailed. For two years after the removal of Theebaw the Shan chiefs, who had previously paid some sort of allegiance to the Burmese monarchs, were left to themselves, and they signalised their emancipation by quarrelling among themselves to such an extent that the whole country was laid waste, villages and cattle destroyed, and many of the inhabitants fled to Lower Burma. Famine of course followed, and in the Legya Valley alone 2000 people were said to have died of hunger, and we saw their bones lying months afterwards in the main street of the town; the few surviving inhabitants having fallen into such a state of despondency that they were too apathetic to remove them. Under our rûle this state of things is happily fast disappearing, and in another year or two the Shan States will unquestionably become one of the largest rice-producing districts in our new province.

By far the greater number of the insects enumerated below came from Bernardmyo, Koni, or Fort Stedman; and a few words concerning these places will not be out of place. I am indebted to Surgeon Philson, M. S., for all the butterflies from Bernardmyo. I have never been

there myself, and can only say that it is an unhealthy hill station at an altitude of about 7000 ft. The country round about is mountainous and covered with thick forest, and I should certainly select this as my head-quarters if I had the good luck to spend a season collecting in the Shan States. It lies just north of the Ruby Mines, and can be reached without any difficulty from Mandalay.

Koni lies at an altitude of 4500 ft. in the centre of the Phwayla Plateau, and is close to the newly-made road leading from Meiktila in Upper Burma to the Shan States. The railway will also very possibly take the same route. The Phwayla Plateau is an extensive open down country, mostly under cultivation, but otherwise covered with short turf, bracken fern, and fir-trees (*Pinus longifolia*). The change from the dense forest lying between the Burma plains and this plateau is very remarkable. The former is essentially tropical; the latter reminds one immediately of the English South Downs. Such plateaux are not uncommon; they are to be met with in the interior of the Khasia and Jynteah hills, and one has lately been discovered at Haka, in the Chin country. Such plateaux look healthy enough, but Koni was dreadfully unhealthy on account of the fever, and has since been abandoned by British troops. Few butterflies are obtainable there, but Micros were very numerous, and I was fortunate enough to take several new to science.

Fort Stedman lies about thirty miles due east of Koni and Monè, the capital of the Shan States, almost due east of Fort Stedman, at a distance of a hundred miles. Fort Stedman is situated on rising ground close to the village of Maingsouk, on the eastern shore of the Eulay Lake. It is a lovely spot, and would that I had the good fortune to visit it once again. Immediately behind the fort rises the Sintoung range of hills, running up to 5000 ft., and everywhere covered with dense forest. The western shore is also enclosed by a lofty range of hills, everywhere intersected by deep ravines running up from the water's edge, and filled with dense jungle. The elevation is 3200 ft., and the flora is mostly tropical, though our experiments in growing English vegetables were surprisingly successful. The inhabitants are lake-dwellers, and spend the greater part of their lives on

the water in their dug-out canoes: their houses are built on piles, and pushed far out into the lake. In appearance they differ both from the Shans and Burmese; their dialect is also different, and they have a tradition that they came from the neighbourhood of Tavoy about two hundred years ago. The lake is now silting up very rapidly, both by the soil brought down by the streams in the rains, and also more particularly by the rapid growth of the water-weed. Possibly, in after generations, the remains of these lake-dwellers will excite as much interest and speculation as those of the Swiss lakes.

With regard to the climate of the Shan States: it is divided into the hot, wet, and dry seasons. The thermometer, of course, varies with the elevation. The hottest month is April, and at Fort Stedman it occasionally rose to 93° in the shade. Koni was several degrees cooler. The wettest months are August and September. The annual rainfall both at Koni and Fort Stedman was only about 34 in., but at Monè, away to the east, it was far heavier. Several showers fall in April, but the rains do not begin regularly until the middle of May, and continue until October; but there may be occasional showers until December, especially on the uplands. Of course, during the rains, travelling is objectionable, and, owing to there being no roads, it is almost impracticable. The climate otherwise cannot be complained of, and, taken all round, it is far better than most countries in the East.

I have incorporated with this catalogue the insects captured in Eastern Kareni during the military expedition for the subjugation of the Red Karen chief Sawlapaw. The majority were taken by my friend Captain Raikes, of the Rifle Brigade, to whom I handed over my net when I was incapacitated on account of a wound. No doubt the list might be very considerably extended by any one who, more fortunate than I, could devote more time to collecting. Entomology, during active service, can only be indulged in at odd moments.

My best thanks are due to Mr. Elwes for the immense trouble he took in looking over my captures (many of them "rags"), and comparing them with specimens in his magnificent collection. To Mr. de Nicéville also I

am under deep obligation, laying aside, as he did, his own heavy work to name my specimens.

NYMPHALIDÆ.

DANAINÆ.

1. *Danais aglea.*

A common insect throughout the rains, especially in June and July. It is more common at 3000 than at 5000 ft.

2. *Danais melaneus.*

Quite as common as the former at the same times and seasons.

3. *Danais liminaee.*

Occurs commonly at an elevation of 3—4000 ft.

4. *Danais septentrionis.*

Quite the commonest of the hyaline Danaids, especially in the early rains.

5. *Danais chrysippus.*

Very common, but not nearly so abundant as in the plains of India.

6. *Danais genutia.*

More common than the last. It occurs up to 5000 ft., and very probably higher.

7. *Euplœa midamus.*

Occurs commonly everywhere. It is curious that I did not meet with *E. rhadamanthus*, which is common in Burma and Tenasserim. Neither have I seen *E. core.*

8. *Euplœa godartii.*

Three specimens at Fort Stedman, 3200 ft., on July 11th, 1887. I do not by any means infer from this that the insect is rare.

9. *Euplœa deione.*

Two specimens, both males, taken at an elevation of 1000 and 3200 ft. in a terai at the base of the Shan hills.

10. *Euplœa hopei.*

Two specimens; one, a male, from Bernardmyo, and the other, a female, from Pinyoung, 1000 ft., in the terai at the foot of the hills. It is evidently widely distributed.

SATYRINÆ.

11. *Mycalesis anaxias.*

One specimen in February near Thibaw.

12. *Mycalesis medus.*

Not a common insect in the Shan States, but common enough in Upper Burma. Mr. Elwes considers this the rainy season form of the next species, and my specimens of *medus* were taken in the rains.

13. *Mycalesis runeka.*

Not rare in the cold weather.

14. *Mycalesis perseus.*

'Butterflies of India,' vol. i., p. 120.

Very common. I have not the variety *visala*. My small series of eighteen specimens seem to show that specimens taken at the end of the rains are very much darker on the under side than those taken at the end of the dry weather. I have specimens taken at this time which are quite ochreous, with the discal band whitish. I believe a good series would show every intermediate shade, from dark plumbeous grey to pale ochreous, which would coincide with the rainy and dry seasons.

15. *Mycalesis mineus.*

A very common species, and varies much both in the size of the ocellus and depth of colouring.

16. *Mycalesis sanatana.*

One specimen from Bernardmyo.

17. *Mycalesis malsara.*

A common insect, as far as my experience goes.

18. *Lethe gulnihal*, de Nicéville.

P. Z. S., 1889, p. 450.

Three specimens, all males, from Bernardmyo, where it is very possibly not uncommon.

19. *Lethe sinorix.*

One male from Bernardmyo. It has the rufous margin on the hind wing well-marked.

20. *Lethe chandica.*

One male from Fort Stedman, taken in the rains.

21. *Lethe dyrta.*

Very common all the year round. I have a specimen from Sawlon, Eastern Karenni, twelve miles from the west bank of the Salween, which only differs from other specimens in being rather larger and brighter.

22. *Lethe rohria.*

A common species. I have taken it in the rains and at the commencement of the cold weather.

23. *Lethe verma.*

Two specimens from Bernardmyo. It seems partial to considerable elevations, as I did not take it either at Fort Stedman, 3200 ft., or Koni, 4500 ft.

24. *Neope bhima.*

Three specimens; two males and a female from Yatsouk and Bogeathat, at the north end of the Nyoungwè Valley. It is found in open scrub-jungle, where the trees are of medium size. It is fond of settling in the middle of the road, and then flying off into the jungle to settle on a tree-trunk, and is consequently difficult to catch. The male may be described as follows:—Fore wing uniform ochreous brown, with an obscure yellowish submarginal band; just internal to this are two black spots; one between the discoidal nervules, the other between the second and third median nervules; a faint yellowish spot on the costa between the cell and submarginal band. On the hind wing the

black oval spots are not so prominent as in the female. The under side of fore wing as in the female, but with no black spot below last ocellus.

25. *Orinoma damaris.*

One male from the neighbourhood of Bernardmyo.

26. *Yphthima newara.*

Five specimens of both sexes taken in the wet and dry seasons, one of which was taken in April on the Yatsouk Expedition.

27. *Yphthima philomela.*

Not uncommon and widely distributed.

28. *Yphthima methora.*

Several specimens from widely distant localities.

29. *Melanitis leda.*

Abundant at low elevations. They all vary extremely. I have a specimen from Karenni which is much smaller than the other specimens, and the ocelli on the upper side of the hind wing are marked by a white spot only. The form *ismene* also occurs.

30. *Elymnias undularis.*

I have never taken this in the Shan States, but have a specimen from the terai at the foot of the hills. In Eastern Karenni it was very common in January at 800 ft.

MORPHINÆ.

31. *Discophora tullia.*

A common species. The following is a description of the larva when full-fed:—Length, 2 in. Colour black, mottled with grey. A rather broad yellowish dorsal line; the junction of the segments marked by a thin irregular yellow line and red spot. Body covered with white hairs. Head and anus black, the former marked with perpendicular yellow lines. Lives during the day among three or four bamboo-leaves spun together. Pupa white, suspended by the tail; the labial palpi prominently pro-

jected, and changing to dark brown a few hours before emergence. It remains three weeks in pupa.

32. *Enispe cycnus.*

One male from Bernardmyo. I do not think that it has hitherto been recorded from so far east.

33. *Œmona lena.*

One male of this rare insect from Bernardmyo. I know nothing regarding its capture.

34. *Pareba vesta.*

Found not uncommonly at an elevation of 5000 ft., but it is a local insect in the Shan States.

NYMPHALINÆ.

35. *Ergolis merione.*

Found commonly at elevations from 1000—3000 ft., but less commonly from 3000—5000 ft.

36. *Ergolis ariadne.*

Quite a common species at suitable elevations.

37. *Eurytela horsfieldii.*

One specimen from Fort Stedman. It is now in Mr. Elwes' collection.

38. *Cupha erymanthis.*

A common species from 1000—3000 ft., more rarely at higher elevations. It is almost invariably found near water, and affects open spaces in thick jungle. It varies in colour from brownish ochreous to umber-brown, and, as far as my observation goes, this is not dependent on season or elevation.

39. *Atella sinha.*

Not a common species; taken at Yatsouk and Fort Stedman. I have a variety with the lower discal area pale yellow.

40. *Atella phalanta.*

Very common everywhere throughout the year.

41. *Cethosia cyane.*

A common species from 3000—5000 ft. The females emerge about three weeks after the males.

42. *Cethosia biblis.*

As common a species as the last, but does not extend to quite the same elevation.

43. *Cynthia erota.*

An abundant species ; generally found on bushes overhanging water, and fond of settling on damp sand. The females are much more rarely seen.

44. *Sephisa chandra.*

Occurs rarely at elevations of 3000 ft. I have never taken the female.

45. *Dilipa morgiana.*

I have two males taken by a soldier at Fort Stedman in July.

46. *Apatura parysatis.*

Not uncommon at 1000 ft., but I have never seen it above 3000 ft.

47. *Hestina nama.*

Very common all the year round. In the cold weather I have found it commonly on the tops of the limestone outcrops, which are so common in many places in the Shan States, and which rise to a height of 500 or 600 ft. above the surrounding plain. I have often observed that insects accumulate on the tops of hills, frequently on the extreme summits, more especially in the cold weather, when at lower elevations they are scarce or absent.

48. *Herona marathus.*

One specimen in August at Fort Stedman.

49. *Precis iphita.*

One of the most abundant butterflies, and found almost everywhere.

50. *Junonia asterie.*

51. *Junonia almana.*

Occur not uncommonly, but cannot be said to be abundant.

52. *Junonia atlites.*

Common at low elevations, more rarely at 4000 ft. It is common in Upper Burma, where the rainfall is heavy.

53. *Junonia lemonias.*

Very abundant everywhere. In the plains of Burma it is equally common.

54. *Junonia hierta.*

A very common butterfly, especially in the valleys at 800—1000 ft. It extends quite to the right bank of the Salween. It is also common on the Phwayla Plateau, 4500 ft.

55. *Junonia orithyia.*

Found in the same situations as the last, and quite as common, and, like it, much prefers open country to jungle.

56. *Neptis varmona.*

Everywhere abundant.

57. *Neptis ophiana.*

Not uncommon. I have one specimen which agrees with *N. columella*, Moore.

58. *Neptis aceris* var. *intermedia.*

Two specimens at Fort Stedman in June.

59. *Neptis soma.*

Very common. No doubt many more species of this genus occurs, and which I overlooked owing to their superficial resemblance when on the wing.

60. *Cirrhochroa aoris.*

A common insect, and doubtless to be found throughout the Shan States.

61. *Pseudergolis wedah.*

Not rare, and generally found in jungly places near water.

62. *Hypolimnas bolina.*

Very common in the later rainy months. Both the larger and smaller forms of both sexes occur commonly.

63. *Hypolimnas misippus.*

Not by any means so common as the last. The only females I have taken are the form *P. diocippus* of Cramer.

64. *Argynnis niphe.*

I found this commonly on the Phwayla Plateau; less commonly at Fort Stedman; but it occurs throughout the Shan States.

65. *Argynnis childreni.*

This species is apparently confined to high elevations, 7000 ft. and upwards. I have a series from Bernardmyo, 7500 ft., but from nowhere else.

66. *Parthenos gambrisius.*

Common at the end of the rains, and occurs from 3000 to 8000 ft.

67. *Limenitis danava.*

I think this must be an uncommon species. I had only one specimen, taken near water in thick jungle at Fort Stedman in August.

68. *Limenitis dudu.*

This is also a rare insect. I have one specimen, taken on the summit of a hill near Koni at an elevation of 5000 ft. at the latter end of October.

69. *Limenitis procris.*

Common everywhere in the Shan States; and I have a specimen from Sawlon, Eastern Karenni, taken in January.

70. *Athyma perius.*

Common everywhere.

71. *Athyma selenophora.*

Abundant everywhere.

72. *Athyma cama.*

I have found this rather an uncommon species at 3000—4000 ft.

The same remark applies to this genus as to *Neptis*. I have no doubt overlooked many species owing to their close resemblance.

73. *Symphædra dirtea.*

Extends throughout the Shan States at elevations of 800—3000 ft. I found it commonly in the Legya and Maingkain districts; also in Thebaw; and I have also a series which I took at Sawlon, on the banks of the Pun River, in January.

74. *Euthalia lepidea.*

I believe I have seen this on the Phwayla Plateau, but am not sure. My specimens come from Eastern Karenni, where it is not uncommon.

75. *Euthalia appiades.*

Somewhat local, but abundant where it occurs. I have it from Nankon, 4000 ft., on the edge of the thick belt of hills and forest extending between the Phwayla Plateau and the Upper Burma plains; also from the neighbourhood of Monè, and commonly from Eastern Karenni. It flies nearly all the year round.

76. *Euthalia lubentina.*

One specimen from Fort Stedman in July.

77. *Euthalia discispilota.*

One male taken in January at Sawlon.

78. *Euthalia garuda.*

An abundant species, especially at the edge of belts of forests. It is common also in Karenni.

79. *Pyrameis cardui.*

Not uncommon in the colder months at the higher elevations.

80. *Pyrameis indica.*

One specimen from Bernardmyo. It is probably not uncommon at high elevations.

81. *Vanessa canace.*

Not uncommon, and widely distributed throughout the Shan States. I have specimens from Fort Stedman, Monè, and also from Swélin in South Theinee.

82. *Symbrenthia hippoclus.*

An abundant species everywhere.

83. *Rhinopalpa vasuki*, Doherty.

I have several specimens taken in widely different localities. It is common in Eastern Karenni, also in the forest belt between Burma and the Shan States, and appears partial to thick jungle near water. I have taken it in July and also in January.

84. *Cyrestis thyodamas.*

A widely-distributed species. It occurred on the Yatsouk Expedition, at Fort Stedman, and in Eastern Karenni.

85. *Cyrestis cocles.*

Occurs in Eastern Karenni. Though I have never seen it in the Shan States, yet it probably occurs.

86. *Cyrestis rahria.*

This occurs in Eastern Karenni, but whether commonly or not I cannot say. I have not seen it in the Shan States. My three specimens are tattered, but quite sufficient to identify the species.

87. *Kalluna inachus.*

A common species in the later rainy months.

88. *Doleschallia polibete.*

An uncommon species at 3000—5000 ft.

89. *Charaxes eudamippus.*

I have taken this at Singu, 1200 ft., a military post in the forest between Fort Stedman and Hlinedet. It is probably not uncommon, though I have only one or two specimens.

90. *Charaxes athamas.*

Occurs commonly all the year round throughout the Shan hills and Karenni.

91. *Charaxes arja.*

Quite as common as the last, and found in the same localities.

92. *Charaxes fabius.*

I think this species must be rare. I have only one specimen, which I took in December at an elevation of 5000 ft., at the bottom of the Hopaung Valley, south-east of Fort Stedman.

93. *Charaxes aristogiton.*

One specimen brought to me by a soldier at Fort Stedman.

LEMONIIDÆ.

LYBITHÆINÆ.

94. *Libythea myrrha.*

I have taken this in most of the valleys of the Shan States in the Meigupon, Legya, and Monè valleys; it is quite common.

NEMEOBIINÆ.

95. *Zemeros flegyas.*

Abundant throughout the country.

96. *Dodona ouida.*

Widely distributed. I have taken it in both the Northern and Southern Shan States.

97. *Abisara fylla.*

Widely distributed. I have specimens from Bernardmyo, as well as from localities in the Southern Shan States.

98. *Abisara neophron.*

This, I think, is more common in the Northern and Central States; in fact, I have never taken it either at Fort Stedman or Koni, but have specimens which I took at Banzam and Thebaw in the cold weather.

99. *Abisara* sp. ?.

De Nicéville, writing of the last six species of *Abisara*, 'Butterflies of India,' vol. ii., states that if the locality is known the specimen can be named. This being the case, and specimens from the Shan States not having been previously examined, it is difficult to name my specimens, some of which also come from Eastern Karenni. They all vary, but are probably varieties of *P. echerius* of Stoll.

LYCÆNIDÆ.

100. *Loxura atymnus.*

A very common species throughout the country. It has a short weak flight, and frequently settles in the middle of thick brushwood. It is consequently difficult to secure good specimens.

101. *Gerydus* (*Miletus*) *boisduvali.*

A common species, usually found in the shade of large trees.

102. *Paragerydus horsfeldi.*

This is found in the same localities as the last; it is equally common, the specimens varying greatly in size.

103. *Allotinus multistrigatus.*

Not rare and widely distributed.

104. *Logania marmorata.*

Two specimens at Monè in the cold weather.

105. *Poritia phraatica.*

One specimen in March at Phaseing in Thebaw.

106. *Pithecops hylax.*

A common species in thick jungle, both in the Shan States and in Karenni.

107. *Cyaniris chennellii.*

Occurred, but not commonly, both at Koni and Fort Stedman.

108. *Cyaniris placida.*

I have one male only, taken at Monè in January.

109. *Cyaniris jyntcana.*

I have this from nowhere else than Bernardmyo.

110. *Zizera sangra.*

Occurs on the open hilly country about Koni; not commonly.

111. *Zizera gaika.*

Scarce at Fort Stedman, and I have not found it elsewhere.

112. *Lycæna maha.*

A common species found on open hill-sides from 3000—5000 ft.

113. *Lycæna plinius.*

Very abundant everywhere.

114. *Lycæna theophrastus.*

Occurs at Koni, and no doubt elsewhere.

115. *Lycæna bœtica.*

Found everywhere in the Shan States, and at all elevations. The species is very constant.

116. *Lycæna parrhasius.*

Very common at low elevations.

117. *Lycæna argiades.*

Occurs at higher elevations than the last, and is equally common.

118. *Lycæna putli.*

Widely distributed and abundant.

119. *Jamides bochus.*

Occurs throughout the Shan States, and also in Karenni.

120. *Talicada myseus.*

Common at Yatsouk and at Koni. In fact, it is widely distributed, and, where found, very common.

121. *Lampides elpis.*

Very common at 3000—5000 ft.

122. *Lampides alexis.*

Not so common as the last, and found at lower elevations, as at Monè, 800 ft.

123. *Catachrysops strabo.*

Abundant everywhere.

124. *Catachrysops cnejus.*

Abundant everywhere.

125. *Castalius decidea.*

A common species, and found throughout the summer.

126. *Castalius roxus.*

Found in the same localities as the next species.

127. *Castalius rosimon.*

Commonly at Fort Stedman and Koni.

128. *Nacaduba atrata.*

A few specimens only, taken at Koni in the summer.

129. *Nacaduba ardates.*

Very common in the sandy beds of streams at moderate elevations.

130. *Nacaduba hampsonii.*

Occurred at Fort Stedman, but rarely.

131. *Aphnæus lohita.*

Occurs commonly all the year round both in the Shan States and Upper Burma.

132. *Aphnæus syama.*

The only specimens I have are from Koni, but it probably occurs elsewhere.

133. *Iolaus illurgis.*

I have one specimen of this rare insect, which I took near Koni, 5000 ft. It is a perfect specimen, and a very lovely insect.

134. *Sithon sugriva.*

This, I think, must be rare, as I have only one specimen, which I took in July at Fort Stedman.

135. *Camena ctesia.*

Probably a scarce insect; I have only one specimen, a male, taken at Liseing in the cold weather.

136. *Camena deva.*

Widely distributed and common on the extreme summit of isolated hills all the year round, 4000—6000 ft. The female is much more rarely met with than the male.

137. *Cheritra freja.*

Very common in Upper Burma, the Shan States, and Eastern Karenni.

138. *Hypolycæna erylus.*

I have only two specimens, taken at Maingyi, on the borders of South Theinee, in the cold weather.

139. *Hypolycæna kina.*

My one specimen came from Bernardmyo, in the Northern Shan States.

140. *Hypolycæna lisias.*

Occurs at Singu, 2000 ft., where I took two specimens in the rains; but I have not met with it elsewhere.

141. *Drupadia boisduvalii.*

Occurs not uncommonly throughout the country.

142. *Lehera eryx.*

One specimen at Yatsouk in April, at about 2000 ft. elevation.

143. *Zinaspa distorta.*

A few specimens from Koni. I fancy, however, that it is not an uncommon insect.

144. *Rapala nissa.*

Common and widely distributed, and very partial to the summits of hills at 5000 ft. elevation.

145. *Rapala jarbas.*

This is also a widely distributed species, and I have specimens both from the Northern and Southern Shan States.

146. *Iraota mæcenas.*

Apparently rare. I have only taken it at Monè in the cold weather.

147. *Chrysophanus mandersi*, Elwes, n. sp.

Mr. Elwes, in whose collection the specimen now is, has named and described it as follows:—"Like *C. Pang*, Oberthür, Et. Ent., xi. Liv., p. 19, t. v., fig. 16, but the band of black spots hardly showing through the fore wing. Below the difference is well-marked on the fore wing. The outer row of spots (which, like those of *C. Pang*, are black edged with blue inside, except the discal ones, which are ringed with blue) does not extend to the costa; the next row is parallel to the outer one, not directed inwards, as in *Pang*; the third and innermost discal spot is absent On the hind wing the transverse white band is only represented by a faint trace of spots. The interspaces are not red, and the black spots near the base not ringed with white.

"Nearly allied to *C. Pang*, of which I have two specimens from M. Oberthür, taken at or near Tatsienlo in East Thibet, many hundred miles to the northward. The occurrence of this insect, which belongs to a genus hitherto unknown in the Eastern Himalaya or Malay region, is remarkable, especially when the elevation and the season of its capture is considered."

My specimen was taken at Banzam, 3400 ft., in February, and is a male.

148. *Ilerda epicles.*

Widely distributed, but not, I think, abundant.

149. *Ilerda brahma.*

Two specimens from Bernardmyo, but nowhere else.

150. *Curetis brelis.*

Everywhere abundant.

151. *Acesina aberrans*, de Nicéville.

One female at Koni. It is probably, however, not uncommon.

152. *Amblypodia amantes.*

Occurs at Fort Stedman and elsewhere at low elevations.

153. *Amblypodia eumolphus.*

Widely distributed and common, 4000—8000 ft. It is on the wing all the year round. It is a very pugnacious insect, and soon tatters itself.

154. *Amblypodia anita.*

I have only one specimen, taken in the cold weather at Monè.

155. *Amblypodia fulgida.*

Not uncommon at Koni during the summer months.

156. *Amblypodia atrax.*

A rare species, which I have only taken east of Fort Stedman.

157. *Amblypodia* (*Surendra*) *quercetorum.*

A common species almost everywhere.

158. *Amblypodia* (*Surendra*) *latimargo* (Moore).

I have one specimen, a female, from Koni, in September. It agrees in every respect with specimens in the British Museum.

159. *Amblypodia rama.*

Quite common at Koni and elsewhere.

PAPILIONIDÆ.

PIERINÆ.

160. *Pontia xiphia.*

Common all the year, both in Upper Burma and the Shan States.

161. *Delias pasithoe.*

Common nearly all the year round. I have found it up to 5000 ft.

162. *Delias descombesi.*

Very common everywhere, and found at the same elevations as the last.

163. *Delias hierte.*

Not uncommon, and occurs also in Eastern Karenni.

164. *Delias agostina.*

Widely distributed at low elevations. In the Monè Valley it is abundant.

165. *Delias belladonna* var. *horsfeldii.*

I have one female specimen from Koni, 4500 ft., which has the abdominal margin brilliantly yellow. It is most unfortunate that I was unaware of the vexed question concerning the three supposed species, *belladonna*, *horsfeldii*, and *ithiela;* otherwise I might have done something towards settling it by collecting a large number of specimens.

166. *Prioneris thestylis.*

I have specimens from Fort Stedman and Bernardmyo. My female specimens are mimics of the above, but the yellow on the abdominal margin is not so well-marked.

167. *Prioneris clemanthe* var. *Watsoni.*

Not taken in the Shan States, and but rarely in Karenni.

168. *Catopsilia pyranthe.*

Abundant all over the country at all elevations.

169. *Catopsilia catilla.*

The most abundant of the *Pierinæ*, and found everywhere.

170. *Catopsilia jugurthina.*

Widely distributed at low elevations.

171 *Terias hecabe.*

An abundant insect everywhere. My specimens tend to bear out Mr. Elwes' statements regarding the numberless described species being merely seasonal varieties of the same species.

172. *Terias senna.*

Not uncommon at Koni. It varies greatly in size,

some of my specimens being quite half an inch smaller than others.

173. *Gonepteryx himalayensis.*

I took a few specimens at Pindea, seven miles north of Phwayla, on the plateau, in April; and again commonly at Koni in September. The elevation, 4000—4500 ft., appears remarkably low.

174. *Colias Fieldi.*

Abundant at Bernardmyo, and seen on the summit of Swélin, 10,000 ft., in South Theinee, in February.

175. *Pieris canidia.*

I have taken this in April, when on the Jatsouk Expedition, and in August at Fort Stedman, 3000 ft.

176. *Pieris melete.*

I have two males and a female from Bernardmyo. Unfortunately I do not know the date of capture.

177. *Pieris rama.*

Very common nearly all the year round in gardens and cultivated ground. I have one very diminutive female, which reminds one of the small form of the female *P. napi.*

178. *Tachyris paulina.*

This is rare at Fort Stedman, but common in the Monè Valley, in April. It is fond of settling on damp spots on the roadside, and dashing off into the jungle when disturbed.

179. *Tachyris lalage.*

Common at 3000 ft.

180. *Tachyris hippo.*

I have three males and one female from Sawlon, but I have not taken it in the Shan States.

181. *Huphina hira.*

Widely distributed and common.

182. *Eronia hippia.*

Widely distributed. I have it from the plains of Upper Burma, and from intervening places between them and Monè. It is found more abundantly at low elevations.

183. *Hebomoia glaucippe.*

Occurs commonly all over the Shan States. Its resemblance to a withered leaf when settled on wet mud is exact. The upper wings are folded so closely behind the lower that only the pointed tips project, forming, as it were, the end of the leaf; while the speckled hind wings with the fuscous discal line form the base and midrib to perfection.

184. *Ixias pyrene.*

Common everywhere, but is more abundant in the Burma plains.

PAPILIONINÆ.

185. *Ornithoptera rhadamanthus.*

Very common in the low valleys, 800—3000 ft.

186. *Papilio aidoneus.*

Not an uncommon species. It is fond of the deep shade of forest trees overhanging streams, under which it flies with a slow graceful flight.

187. *Papilio philoxenus.*

Abundant and widely distributed.

188. *Papilio aristolochiæ.*

Very common, but not found, I think, above 5000 ft.

189. *Papilio paris.*

A common species everywhere; also in Karenni.

190. *Papilio rhetenor.*

Apparently an uncommon species, as I have only taken it at Fort Stedman in October.

191. *Papilio helenus.*

Abundant. Difficult to secure in good condition, as it has a habit of flying in and out of bushes, and soon tatters itself.

192. *Papilio chaon.*

Not so common as the last, but found in the same localities.

193. *Papilio polytes.*

Very common almost everywhere.

194. *Papilio erithonius.*

Very common, especially at low elevations. It also occurs in Karenni. All my specimens are smaller than those taken in the Punjab.

195. *Papilio clytia.*

A common species at low elevations. The dark form *panope* also occurs.

196. *Papilio antiorates.*

Common in low valleys, 800—1200 ft., in March and April, and again at the commencement of the cold weather. It occurs at Nasailing, in South Theinee.

197. *Papilio sarpedon.*

Abundant and very partial to damp places. It rejoices in the hottest sunshine, and is commonest at elevations of 3000 ft.

198. *Papilio bathycles.*

Very common, but I have never seen the female.

199. *Papilio machaon.*

Not uncommon at 4000 ft., more rarely at 3000 ft.

200. *Leptocircus curcus.*

This is a most interesting and curious butterfly, and would scarcely be taken for such when seen for the first time hovering over a pool of water; when it certainly has much more resemblance to a dragon-fly. It is not

by any means rare at low elevations in the moister valleys.

HESPERIDÆ.

201. *Badamia exclamationis.*

Occurs commonly throughout the Shan States.

202. *Ismene Benjamini.*

Widely distributed and common.

203. *Ismene jaina.*

The males are not uncommon, but I have not seen the female.

204. *Hasora chromus.*

Common during the rains.

205. *Pithauria murdava.*

Not uncommon during the rains at 3000 ft.

206. *Baoris oceia.*

Not uncommon, but varies considerably both in size and in the number of spots on the fore wing.

207. *Parnara toona.*

Probably not uncommon. No doubt many other species of *Parnara* occur, which I overlooked owing to their close similarity.

208. *Sarangesa dasahara.*

Very common and widely distributed both in the Southern and Northern Shan States.

209. *Telicota bambusæ.*

Not uncommon, but local, as far as my experience goes.

210. *Telicota augias.*

Not uncommon. It seems to prefer the open down country at 4000—5000 ft., whereas *T. bambusæ* I have generally found on the outskirts of thick jungle.

211. *Telicota dara.*

Abundant everywhere.

212. *Halpe zema.*

A few males taken in the dry season at Fort Stedman.

213. *Halpe dolopia.*

A few specimens from Fort Stedman in the dry season.

214. *Tagiades menaka.*

A common species; fond of the neighbourhood of water, and settling on dark-coloured rocks, thereby rendering the white hind wings very conspicuous.

215. *Tagiades mætana* (Moore).

One female from Fort Stedman.

216. *Antigonus sura.*

A very common and widely distributed species.

217. *Coladenia dan.*

Very common at 3000 ft., and widely distributed.

218. *Udaspes folus.*

Common in light jungle.

219. *Udaspes restricta.*

One specimen in June at Fort Stedman, but it is probably not uncommon.

220. *Plesioneura aurivittata.*

Very common at low elevations in light jungle, and very widely distributed.

221. *Astictopterus diocles.*

Common and widely distributed.

222. *Astictopterus olivescens* (Moore).

Rare at Fort Stedman in the rains.

223. *Astictopterus salsala.*

Widely distributed at low elevations.

224. *Baracus septentrionum.*

I have two specimens from Fort Stedman. It is, I think, not uncommon, and seems partial to open spaces covered with long grass.

Addenda.

225. *Abaratha agama.*

A few specimens at Fort Stedman in the rains.

226. *Thanaos obsoleta* (Moore).

I have lost the locality for this insect. It is, however, not uncommon.

227. *Pyrgus superna* (Moore).

A few specimens at 1000 ft. in the middle of March.

228. *Hesperia oecia.*

Common at Fort Stedman in September.